

WHAT IS CLAIMED IS:

- 1           1.     A dynamic carrier-selection method comprising the steps of:  
2                     creating a candidate carrier list from a plurality of carriers; and  
3                     changing from a first carrier of the plurality of carriers to a second  
4 carrier of the plurality of carriers in response to a determination that the quality of  
5 the first carrier is not acceptable, the second carrier being included in the carrier list.
  
- 1           2.     The method of claim 1 further comprising the step of:  
2                     measuring a quality of each of the plurality of carriers; and  
3                     ranking the plurality of carriers according to the measured quality,  
4 wherein the candidate carrier list is created in accordance with the ranking of the  
5 plurality of carriers.
  
- 1           3.     The method of claim 2 wherein the second carrier is the carrier, other  
2 than the first carrier, having the greatest measured quality.
  
- 1           4.     The method of claim 1 wherein the candidate carrier list is created by  
2 arbitrarily selecting at least one carrier of the plurality of carriers.

1           5.     The method of claim 2 wherein the step of measuring occurs in a  
2 frequency-hopping mode and the candidate carrier list is used in a high-speed mode.

1           6.     The method of claim 3 further comprising the steps of:  
2 re-measuring the quality of each of the plurality of carriers;  
3 re-ranking the plurality of carriers according to the re-measured  
4 quality; and  
5 updating the candidate carrier list in accordance with the re-ranking  
6 of the plurality of carriers.

1           7.     The method of claim 6 wherein the step of re-measuring occurs in a  
2 frequency-hopping mode and the updated candidate carrier list is used in a high-  
3 speed mode.

1           8.     The method of claim 6 wherein the quality of the plurality of carriers  
2 is measured with reference to interference and multi-path fading.

1           9.     The method of claim 8 wherein the quality of the plurality of carriers  
2 comprises a carrier-signal-to-interference-signal strength ratio (C/I).

1           10.    The method of claim 9 wherein I comprises external interference and  
2    self interference.

1           11.    The method of claim 1 further comprising the steps of:  
2                   communicating an identity of the second carrier; and  
3                   marking the second carrier as being occupied.

1           12.    The method of claim 1 further comprising, following the step of  
2    changing, the step of listening by a first unit and transmitting by a second unit at a  
3    priority slot of the second carrier assigned to the second unit.

1           13.    A dynamic carrier-selection system comprising:  
2                   a candidate carrier list that includes a list of a plurality of carriers; and  
3                   a unit operating on a first carrier of the plurality of carriers, wherein  
4    the unit changes from the first carrier of the plurality of carriers to a second carrier  
5    of the plurality of carriers with reference to the candidate carrier list in response to  
6    a determination that the quality of the first carrier is not acceptable.

1           14.    The system of claim 13 wherein the candidate carrier list includes a  
2    ranking according to quality of the plurality of carriers.

1           15.    The system of claim 13 wherein the candidate carrier list includes an  
2   arbitrary selection of at least one carrier of the plurality of carriers.

1           16.    The system of claim 14 wherein the candidate carrier list is used by  
2   the unit while the unit is operating in a high-speed mode.

1           17.    The system of claim 13 wherein the second carrier is the carrier of the  
2   plurality of carriers other than the first carrier having the greatest quality.

1           18.    The system of claim 13 wherein the unit is operable to measure the  
2   quality of at least one of the plurality of carriers.

1           19.    The system of claim 18 wherein the unit is operable to measure the  
2   quality of at least one of the plurality of carriers while operating in a frequency-  
3   hopping mode.

1           20.    The system of claim 18 wherein the quality of the plurality of carriers  
2   is measured with reference to interference and multi-path fading.

1           21.    The system of claim 20 wherein the quality of the plurality of carriers  
2   comprises a carrier-signal-to-interference-signal strength ratio (C/I).

1           22.    The system of claim 21 wherein I comprises external interference and  
2    self interference.

1           23.    A dynamic carrier-selection method comprising the steps of:  
2                    creating a candidate carrier list of a plurality of carriers;  
3                    changing by a first unit operating on a first carrier of the plurality of  
4    carriers to a second carrier of the plurality of carriers in response to a determination  
5    that the quality of the first carrier is not acceptable, the second carrier being the  
6    carrier other than the first carrier having the greatest measured quality;  
7                    measuring the quality of each of the plurality of carriers;  
8                    ranking the plurality of carriers according to the measured quality; and  
9                    updating the candidate carrier list in accordance with the re-ranking  
10   of the plurality of carriers.

1           24.    The method of claim 23 wherein the step of measuring the quality of  
2    the plurality of carriers occurs with reference to interference and multi-path  
3    fading.

1           25.    The method of claim 24 wherein the quality of the plurality of carriers  
2    comprises a comparison of a carrier-signal strength to an interference-signal  
3    strength.

1           26.    The method of claim 25 wherein I comprises external interference  
2           and self interference.

1           27.    The method of claim 23 further comprising the steps of:  
2                   communicating an identity of the second carrier; and  
3                   marking the second carrier as being occupied.

1           28.    The method of claim 27 further comprising the step of communicating  
2           the updated list over a frequency-hopping (FH) carrier.

1           29.    The method of claim 28 wherein the FH carrier operates according  
2           to an ad-hoc wireless system.

1           30.    The method of claim 27 further comprising the step of communicating  
2           the updated list over a high-speed (HS) carrier.

1           31.    The method of claim 23 further comprising, following the step of  
2           changing, the steps of:  
3                   listening by the first unit and transmitting by a second unit at a priority  
4                   slot of the second carrier assigned to the second unit; and  
5                   transmitting by the first unit and listening by the second unit at a  
6                   priority slot of the second carrier assigned to the first unit.

1           32.    The method of claim 23 wherein the step of measuring occurs  
2   according to a frequency-hopping mode.

1           33.    The method of claim 32 further comprising the step of communicating  
2   the updated list over a high-speed (HS) carrier.

1           34.    A method of updating a list of acceptable carriers comprising the steps  
2   of:  
3                   determining whether a predetermined time period has elapsed since  
4   a plurality of carriers was last ranked according to measured quality;  
5                   determining whether a carrier change has occurred since the plurality  
6   of carriers was ranked according to measured quality; and  
7                   in response to a determination that either the predetermined time  
8   period has elapsed or that a carrier change has occurred since the plurality of carriers  
9   was ranked according to measured quality, measuring quality of the plurality of  
10   carriers and ranking the carriers according to the most recent quality measurement.

1           35.    The method of claim 34 wherein the quality of the plurality of carriers  
2   is measured with reference to interference and multi-path fading.

1           36.    The method of claim 35 wherein the quality of the plurality of carriers  
2    comprises a ratio of a carrier-signal-to-interference-signal strength ratio (C/I).

1           37.    The method of claim 36 wherein I comprises external interference and  
2    self interference.

1           38.    The method of claim 34 wherein the step of measuring occurs in a  
2    frequency-hopping mode.

1           39.    The method of claim 34 further comprising the step of using the  
2    ranking in a high-speed mode.